OUR BOOKSHELF.

British Rainfall, 1912. On the Distribution of Rain in Space and Time over the British Isles during the Year 1912, as recorded by more than 5000 Observers in Great Britain and Ireland, and discussed with Articles upon various Branches of Rainfall Work. By Dr. H. R. Mill, assisted by C. Salter. Fifty-second annual volume. Pp. 96+372. (London: E. Stanford, Ltd., 1913.) Price 10*s.*

THE plan of this valuable annual volume remains almost exactly as before; it is well known to many of our readers, and is welcomed by meteorologists and others for its comprehensiveness and the scrupulous care exercised in dealing with matters of detail. Part i. is devoted mainly (1) to the unprecedented rainstorm of August 25–26 in East Anglia, the area being now extended to the whole of England and Wales. The rainfall exceeded 7·5 in. over about sixty-seven square miles, with a small patch where more than 8 in. fell, between Norwich and Brundall. The weight of precipitation over England and Wales is estimated at 4473 million tons. (2) the wettest summer in England and Wales. The rainfall was not exceeded during the last fifty years; in August the amount in south England was more than three times the average over large areas. The general rainfall for June-August was 78 per cent. above the normal. Part ii. deals with the rainfall for the year, and includes the observers' remarks on the weather, with heavy falls and monthly and seasonal rainfall, illustrated by maps. The year was a wet one; expressed in percentages the totals were: England, 123; Wales, 119; Scotland, 111; Ireland, 108; British Isles, 115. Part iii. contains the general tables of total rainfall at 5272 stations; maps of the river-divisions are now given, with the tables for each of the twenty-three large divisions of the country. We notice with regret that this useful and unique organisation is not yet self-supporting, and that the deficit has to be met by the director; further, that owing to the continual strain of the work, Dr. Mill has to take a complete temporary rest, during which time Mr. Mossman, of the Argentine Meteorological Office, will undertake the editorship of the publications.

(1) *Die Süsswasser-Flora Deutschlands, Osterreichs und der Schweiz.* Herausgegeben von Prof. A. Pascher. Hefts. 2, 3, 9, and 10. Price 5, 1.80, 1.50, 4 marks.

(2) *Die Süsswasserfauna Deutschlands eine Exkursions-fauna.* Herausgegeben von Prof. Dr. Brauer. Heft. 14. (Jena: Gustav Fischer, 1912–13.) Price 7 marks.

THESE little monographs on the fresh-water flora and fauna of Germany, Austria, and Switzerland are issued under the general editorship of Prof. Pascher and Prof. Brauer respectively. The series on the fauna is issued in nineteen parts, extending from the Mammalia to the Hydrozoa; that on the flora in sixteen parts, of which the first twelve and part of the thirteenth deal mostly with microscopic forms, the remainder with fungi, mosses, lichens, &c.; a volume on the Protozoa does not seem to be included. The volumes range in price from 1.50 marks to 7 marks, are purchasable separately, and are written by well-known authorities on the subjects of which they treat. Each volume commences with a general description of the particular group dealt with, methods of investigating and preserving the organisms, and a brief list of the principal works and papers on the subject, after which follows a systematic description of species, diagnoses of genera, &c.

(1) These volumes deal with several groups of flagellated micro-organisms (Heft. 2 and 3), including *Euglena,* diatoms (Heft. 10), and the Zygnemales (Heft. 9), *i.e.,* chlorophyl-green, cylindrical-celled algæ, such as *Spirogyra.* All the volumes seem very complete, and that on the diatoms should serve as a very useful handbook on this interesting group of micro-organisms.

(2) This volume deals with the Rotatoria and Gastrotricha. A good account is given of rotifer structure, and the diagnostic tables and descriptions of species are excellent.

All the volumes are profusely illustrated, *e.g.,* no fewer than 379 illustrations are allotted to the diatoms and 474 to the rotifers, many comprising two or more figures.

We believe that these series will be of the greatest service to the field-naturalist and others.

R. T. H.

LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. *No notice is taken of anonymous communications.]*

The Nature and Treatment of Cancer and Malaria.

MAY I ask your courtesy for a brief reference to the article by Dr. C. W. Saleeby on the International Medical Congress (NATURE, August 14, pp. 608–9)? Dr. Saleeby notes, that recent research is tending in the direction of the views advanced by me some few years ago. How long will yet elapse before these views as to the germinal origin, trophoblastic (asexual) nature, and enzyme or pancreatic treatment of cancer are "generally accepted" cannot be said. But whenever that time does arrive, mankind in general and medical mankind in particular will have no other refuge against the ravages of cancer than its treatment with genuine strong injections of trypsin and amylopsin. Scientifically, what evidences are there of this? In the first place, among others, three successful cases treated by Major Lamballe were described in my book on cancer, published two years ago. It is quite four years since the patients were treated. Two of them are certainly alive and well, and I believe that this is also so with the third. More recently, I have pointed out, in a paper on the occurrence of dextro-rotatory albumins in organic nature, noticed not long ago in your columns, that the asexual generations, such as the malaria parasite, &c., which induce disease, are the same in nature as cancer-cells, and have foretold their total destruction by the ferments, trypsin and amylopsin. In a memoir, which is about to be published, Major F. W. Lamballe,

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R.A.M.C., has demonstrated the scientific truth of this. He has shown in a way which must carry complete conviction, that cases of benign and malignant tertian malaria, even very grave cases with cerebral symptoms, in all of which, as his results show, quinine had proved quite useless to stem the disease and to prevent relapses, from *one to three* injections of pancreatic enzymes sufficed not merely to kill all the parasites, but to cure the patient. Relapses in the patients—which had been the rule in very nearly all the cases—did not occur after this brief treatment, and the men (British soldiers) were able to return to duty *at once,* even in some instances on the day of the second or third injection. That is to say—and it is a matter for great scientific satisfaction—the original work, which I began in 1888, has now resulted in the easy and complete conquest of malaria. What this means can be understood from the facts concerning the treatment of malignant malaria, which at present is the rule in the Army. This entails a course of treatment by quinine lasting at least *four months,* and very often, if not always, even then the patient is not cured. But I understand that during this time the soldier is regarded as unfit for active service, and sometimes 25 per cent. of a regiment stationed in the tropics may be in this condition. In contrast to this the pancreatic treatment of malignant malaria in the hands of Major Lamballe entails not more than *three injections,* costing at the outside three shillings, it need not last *two weeks,* and the patient can return to duty at once, and so far as we know is then free from all danger of relapse, but *not* immune to a new infection. The facts here outlined indicate that, properly applied, that which cures malignant malaria *must* cure cancer.

J. Beard.

8 Barnton Terrace, Edinburgh, August 30.

[I am delighted that my brief reference to Dr. Beard's work should have elicited this interesting letter. He might also have referred to the astonishingly successful treatment of surgical tuberculosis by the pancreatic ferments, which was reported upon by Baetzner in the special tuberculosis number of *The Practitioner* recently. (Being abroad, I cannot give the reference.) When Dr. Beard refers to the malaria parasite as an asexual generation, he must, of course, be thinking of only one-half of its complete reproductive cycle. It would be interesting to make clinical observations as to the action of trypsin and amylopsin upon the sexual and asexual stages of these parasites respectively. As for cancer, I shall never be able to believe that the good results I saw under Dr. Beard's method of treatment six years ago were not causally connected with it. And if it be true, as is now asserted, that the leucocytes, our defenders against morbid cells, normally produce trypsin, perhaps the last has not been heard, after all, of this daring and original theory of Dr. Beard.—C. W. Saleeby.]

Note on the Dicynodont Vomer.

In a paper on Dicynodon now being printed by the Royal Society we have already described the bone which Dr. Broom now regards as the "typically mammalian median vomer." It is the bone which he has described previously as the anterior continuation of the basisphenoid, but without recognising the groove on the dorsal surface. No trace of a suture exists between it and the basisphenoid. To us it seemed, as stated in our paper, that the form of this bone, so far from confirming Dr. Broom's views, rendered his interpretation of the grooved bone in Diademodon even more doubtful than before.

That the bone generally recognised as the vomer in Dicynodon had a paired origin we readily admit, and we had already set forth reasons for this view in a paper now in MSS. on the structure of the skull in a small unnamed Dicynodont genus; as we have pointed out in our paper on Dicynodon, the vomer is paired in the guinea-pig, and had probably a paired origin in mammals.

Igerna B. J. Sollas.
W. J. Sollas.

Oxford, September 6.

An Aural Illusion.

I am not aware that the following curious particular has been noticed.

If a sounding body has a velocity greater than that of sound in air, it will outstrip its previous sounds as it goes, and leave them to follow in its wake. Let it be supposed that such a body ceases sounding directly it passes an observer. In this case the sound waves of the greatest intensity will be the first to act, and those of the least intensity, the last. Hence the modulation of the sound will be reversed, and will have the character of a *diminuendo,* which we associate with sound that comes from a receding body. In such circumstances, therefore, it would seem to the observer that the source of sound had been travelling away from, instead of towards, him; an illusion touching the swell of the sound, and so the apparent direction of the sounder, quite distinct from those pitch effects which are duly taken cognisance of by Doppler's principle.

Norman Alliston.

THE NINTH INTERNATIONAL PHYSIOLOGICAL CONGRESS.

THE triennial International Physiological Congress, which was held at Groningen on September 2 to 6, was unanimously voted by those who attended it to be one of the most successful scientific congresses held during the present year. The number of workers engaged in physiological investigation being not very large, the congress, although larger than might have been anticipated, was of manageable size, and since physiologists on the whole are not a fluctuating body, everyone felt at ease and *en famille.*

It would be impossible to speak too highly of the admirable manner in which the president, Prof. Hamburger, with his characteristic precision, provided for the welfare and convenience of all those who attended the congress and who gave demonstrations in the laboratories; these latter are beautifully equipped, and leave nothing to be desired.

To English physiologists this particular physiological congress is of especial interest, since it is now twenty-five years since the congress was founded at the suggestion of the Physiological Society; the late Sir Michael Foster, its first president, was one of those who was most directly connected with its foundation, and it was as a fitting tribute to his labours that his portrait was chosen as the frontispiece for the special Festschrift, edited by Prof. Hamburger and Dr. Laquer. In this volume an excellent *résumé,* arranged according to subject, is given of the work of the congress during the past twenty-five years; this is preceded by the opening address of the president, Prof. Hamburger, at the present congress.

The congress numbered about 400 members, of whom about sixty were British, and the social

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